

U.S. Patent Application Serial No. 10/658,743  
Response filed September 30, 2005  
Reply to OA dated July 12, 2005

**AMENDMENTS TO THE DRAWINGS:**

The attached sheet of drawings includes changes to Figs. 4 and 5. These sheets, which include Figs. 4 and 5, replace the original sheets including Figs. 4 and 5.

Each of Figs. 4 and 5 have been labeled as "Prior Art".

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**REMARKS**

Claims 1 - 4 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicants regard as their invention. The applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated July 12, 2005.

At the outset, the applicants thank the Examiner for indicating that claims 1 - 4 would be allowable if rewritten or amended to overcome the Examiner's claim objections, discussed below.

As to the Examiner's comments on the Abstract, attached herewith is a substitute Abstract of the Disclosure submitted herewith in place of the current Abstract.

The Examiner has objected to the specification because of alleged language informalities, and has cited specific portions of the specification. The applicants respectfully request reconsideration of these objections.

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Regarding item 6 (on the Examiner's list of objections), as to what the abbreviation "g/PS.h" represents, PS means French horsepower or metric horsepower (originally from a German word Pferdestärke = horse strength). g/PS.h is a unit representing fuel consumption rate. Specifically, it represents a fuel weight consumed per hour per metric horsepower (note: 1 metric horsepower is approximately  $735.499\text{w} = 0.98632$  horsepower). Also, see attachment entitled "Metric horsepower."

Regarding item 7 in the Examiner's list of objections, the applicants agree with the Examiner that it would be advisable to identify the intersection of line L3 and line 15 with a reference character. The applicants have thus use reference "A0".

Also, in Item 7, the Examiner suggests that Fig. 1 may not be correct, and the Examiner is confused as to how the engine speed is different at A1 and B1. The applicants submit that Fig. 1 is correct. In order to more clearly describe the "light-load mode", for the Examiner's understanding, the applicants have added the reference character "A0" to Fig. 1 and amended the paragraph beginning at page 12, line 20 (i.e., the paragraph bridging pages 12 and 13) of the specification to read as follows:

In the case of, for example, the light-load mode in which the arm, the bucket and the like oscillate, that is, a case that only 80% of the capacity with reference to the horsepower capacity of the engine 1 are needed and the iso-horsepower curve of the necessary horsepower is the curve L3, while the torque at the intersection point of the governor characteristic curve 15 and the iso-horsepower curve L3 (indicated at point A0) is less than

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the torque at the rated output point of the engine 1, the number of revolutions of the engine is reduced, from that at A0 to that at A1, than the intersection point and the driving torque are increased, and the horsepower is made to exceed the iso-horsepower curve L3. In this way, the fuel consumption efficiency of the engine 1 can be increased. In this case, the torque is increased from that at the point A1 to that at the point B1 which is approximate to the best fuel consumption efficiency point X. That is, the torque at B1, which is greater than the necessary driving torque at D1 on the iso-horsepower curve L3, is generated. The difference between the torque at the point B1 and the point D1 is used as the surplus torque so as to operate the power generator 11. Thereby, the battery 12 is charged.

In addition to the above, the applicants have amended the specification in order to correct certain informalities therein, including those pointed out by the Examiner.

In view of the above, the withdrawal of the outstanding objections to the specification is in order, and is therefore respectfully solicited.

The Examiner objects to the drawings because, according to the Examiner, features of claim 1 are not shown in the drawings. It is the applicants' position that the addition to Fig. 1, (reference character "A0"), as noted above, overcomes the objection.

The Examiner also objects to Figs. 4 and 5 as they are not indicated as being "Prior Art." The applicants have submitted herewith replacement sheets for Figs. 4 and 5 labeling each drawing sheet as "Prior Art."

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Moreover, the Examiner further objects to Fig. 5 and alleges that the label "T3" is not legible and the parameter cures 1-7 seem to be horizontally misaligned. The applicants submit herewith a replacement sheet for Fig. 5.

The applicants respectfully request that the replacement sheets for Figs. 4 and 5, submitted herewith, be approved by the Examiner.

In view of the above, the withdrawal of the outstanding objections to the drawings is in order and is therefore respectfully solicited.

The Examiner objects to claim 1, alleging that claim 1, its support contained in the specification at pages 12 and 13, and the drawing of Fig. 1 appear to be inconsistent and confusing. The applicants respectfully request reconsideration of this objection.

It is the applicants' position that the various disclosures are consistent. However, in order to more clearly disclose and claim the invention, the applicants have amended the specification and Fig. 1, as discussed above, and have further amended claim 1.

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The Examiner also objects to claim 4 because the recitation "the assist running" does not have an antecedent in claim 1. Such informality has been corrected.


In view of the above, the withdrawal of the outstanding objections to the language of the claims is in order, and is therefore respectfully solicited.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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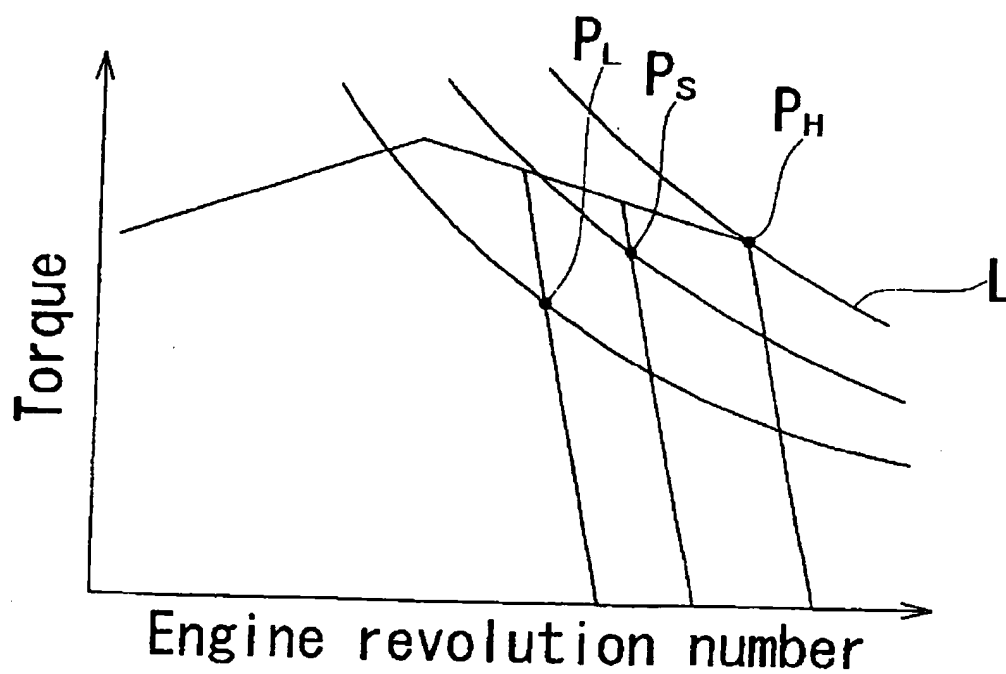
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PATENT TRADEMARK OFFICE

Enclosures: Replacement Sheets of Drawing (Figs. 4 and 5)  
Annotated Sheets of Drawings (Figs. 4 and 5)  
Replacement Abstract of the Disclosure  
Attachment entitled "Metric horsepower"

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FIG. 4

PRIOR ART

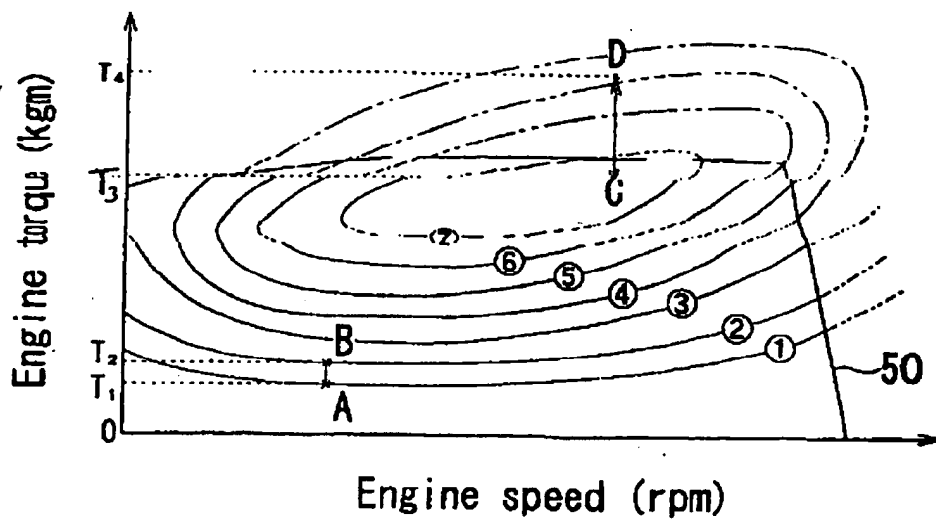




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FIG. 5

PRIOR ART



## Metric horsepower

### PS

This unit (German: *Pferdestärke* = horse strength) is no longer a lawful unit, but is still commonly used in Europe, South America and Japan, especially by the automotive and motorcycle industry. It was adopted throughout continental Europe with designations equivalent to the English "horse power", but mathematically different from the British unit. It is defined by the *Physikalisch-Technische Bundesanstalt* (PTB)[2] (<http://www.ptb.de/>) in Braunschweig as exactly:

$$1 \text{ PS} = 75 \text{ kg} \cdot \text{m/s} = 735.49875 \text{ W} = 0.9863201652997627 \text{ hp (SAE)}$$

The PS was adopted by the Deutsches Institut für Normung (DIN), and subsequently, by the automotive industry throughout most of Europe. (In the nineteenth century, however, the French did not use this German unit, but had one of their own, the Poncelet.) In 1992, the PS was rendered obsolete by EEC directives, where it was replaced by the kW as the official power measuring unit, but in situations where hp was used for commercial and advertising purposes, it continued to be used, as customers are not familiar with the usage of kW for combustion engines.

The European and Japanese automotive industries may use "horsepower" or "hp" (rather than "PS" or "CV", etc.) when referring to metric horsepower in their press-releases or in the media